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FILE 'MEDLINE, CAPLUS, BIOSIS, SCISEARCH' ENTERED AT 17:06:15 ON 22 JUL 2003

L1 26 S TAXOPLASMA(W)GONDII
L2 26 DUP REM L1 (0 DUPLICATES REMOVED)

=> d au ti so ab 1-26 l2

L2 ANSWER 1 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU Miller M A (Reprint); Gardner I A; Packham A; Mazet J K; Hanni K D; Jessup D; Estes J; Jameson R; Dodd E; Barr B C; Lowenstine L J; Gulland F M; Conrad P A
TI Evaluation of an indirect fluorescent antibody test (IFAT) for demonstration of antibodies to Toxoplasma gondii in the sea otter (Enhydra lutris)
SO JOURNAL OF PARASITOLOGY, (JUN 2002) Vol. 88, No. 3, pp. 594-599.
Publisher: AMER SOC PARASITOLOGISTS, 810 EAST 10TH STREET, LAWRENCE, KS 66044 USA.
ISSN: 0022-3395.
AB An indirect fluorescent antibody test (IFAT) tor detection of **Taxoplasma gondii** infection wits validated using serum front 77 necropsied southern sea otters (Enhydra lutris nereis) whose T. gondii infection status was determined through immunohistochemistry and parasite isolation in cell Culture. Twenty-eight otters (36%) were positive for T. gondii by immunohistochemistry or parasite isolation or both, whereas 49 (64%) were negative by both tests. At a cutoff Of 1:320. combined values for IFAT sensitivity and specificity were maximized at 96.4 and 67.3%. respectively. The area under tire receiver-operating characteristic curve for the IFAT was 0.84. A titer of 1:320 was used IS cutoff When screening serum Collected from live-sampled sea otters from California (n = 80). Washington (n = 21). and Alaska (n = 65) for T. gondii infection. Thirty-six percent (29 Out Of 80) of Call sea otters (E. lutris nereis) and 38% (8 out of 21) of Washington sea otters (E. lutris kenyoni) were seropositive for T. gondii. compared with 0% (0 out of 65) of Alaskan sea otters (E. lutris kenyoni).

L2 ANSWER 2 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
AU Wu, Yingsong; Li, Ming; Dong, Wenqi; Li, Yingjie
TI Cloning and sequencing analysis of the gene coding for the lactate dehydrogenase of Plasmodium falciparum FCC1/HN isolate
SO Zhongguo Renshou Gonghuanbing Zazhi (Chinese Journal of Zoonoses) (2002), 18(1), 44-47
CODEN: ZRGZAP; ISSN: 1002-2694
AB The aim of this study is to analyze the complete sequences of lactate dehydrogenase(LDH) gene from Plasmodium falciparum CC1/HN isolate. The complete gene coding for LDH of Plasmodium falciparum FCC1/HN isolate was amplified by PCR. PCR products were digested by EcoR I/SaI I and cloned into plasmid PGEX-4T-1. Recombinant plasmids PGEX-LDH were screened and identified by PCR and restriction anal. The cloned LDH gene was then sequenced by the use of Sanger's method. Homol. of LDHs among Plasmodium falciparum FCC1/HN isolate, Honduras isolate and other species were analyzed. LDH gene of Plasmodium falciparum FCC1/HN isolate was successfully amplified and cloned into the PGEX-4T-1 vector. DNA sequencing anal. showed that the coding length of gene was 951bp, without any introns. By comparing to the LDH gene of Honduras isolate it was found that there are five point mutations occurred in the LDH gene of FCC1/HN isolate and four point mutations based of deduced amino acid sequences. LDH of FCC1/HN isolate exhibited 49.06%, 42.58%, 31.61% homologies in amino acids with **Taxoplasma gondii**, Cryptosporidium paruum, Bacillus megaterium, and 30.19%, 29.55%, 33.44% homol. in amino acids with human LDH-A, LDH-B, LDH-C resp. In conclusion,

the coding region of LDH gene of Plasmodium falciparum FCC1/HN isolate was highly homologous with Honduras isolate. It is very clear that Plasmodium LDH gene is very different from the LDH isoenzymes of other origins.

L2 ANSWER 3 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
AU Yang, Peiliang; Chen, Xiaoguang
TI Construction of the gene encoding multiepitope of Toxoplasma gondii and its expression in E. coli
SO Zhongguo Renshou Gonghuanbing Zazhi (Chinese Journal of Zoonoses) (2002), 18(2), 37-40, 16
CODEN: ZRGZAP; ISSN: 1002-2694
AB Aim: To construct the gene encoding multiple epitopes of **Taxoplasma gondii** antigens and tetanus toxin, express the gene in E. coli and evaluate the specific immunoactivity of the recombinant antigen. Methods: Peptide fragments contg. T cell and (or) B cell epitopes were chosen from **Taxoplasma gondii** and tetanus toxin antigens. With the help of relevant protein-analyzing software, appropriate spacer aminos were inserted to maintain the relatively independent conformation of the constituent fragments, such as the final amino sequence were detd. Proper codons were chosen according to the amino sequence and necessary enzyme sites were considered as well to form the DNA sequence, namely the gene encoding multiple epitopes. The genes were synthesized and subcloned into E. coli expression system. The form and antigenicity of the expression products were analyzed. Results: The 360 bp-long-gene encoding multiple epitopes of Toxoplasma gondii and tetanus toxin were successfully constructed. In E. coli expression system, the product of 14.4 kD is obtained. It is expressed in the form of inclusion. Results of immunoblotting shows strong antigenicity of the product. Conclusions: The product of the gene encoding multiple epitopes of **Taxoplasma gondii** and tetanus toxin expressed in E. coli is of potential value in prepn. of vaccine and diagnosis kit of toxoplasmosis.

L2 ANSWER 4 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU Shen D F; Herbort C P; Tuaillon N; Buggage R R; Egwuagu C E; Chan C C (Reprint)
TI Detection of Toxoplasma gondii DNA in primary intraocular B-cell lymphoma
SO MODERN PATHOLOGY, (OCT 2001) Vol. 14, No. 10, pp. 995-999.
Publisher: LIPPINCOTT WILLIAMS & WILKINS, 530 WALNUT ST, PHILADELPHIA, PA 19106-3621 USA.
ISSN: 0893-3952.
AB Primary intraocular lymphoma, a variant of primary central nervous system lymphoma with ocular involvement, is a large B-cell non-Hodgkin's lymphoma. Some cases of primary intraocular lymphoma. have been reported to be associated with microorganisms including Epstein-Barr virus (EBV) and human herpes virus-8 (HHV-8), but not parasites. We analyzed 10 cases of primary intraocular lymphoma using microdissection and PCR Tumor and normal cells were microdissected from ocular tissue on slides and subjected to PCR for genes from **Taxoplasma gondii**, EBV, and HHV-8. We detected **Taxoplasma gondii**, not HHV-8 or EBV, DNA in the lymphoma. but not in normal cells of two cases that resembled ocular toxoplasmosis clinically. We speculate that **Taxoplasma gondii** may play a role in some forms of primary intraocular B-cell lymphoma.

L2 ANSWER 5 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU Hill D E (Reprint); Liddell S; Jenkins M C; Dubey J P
TI Specific detection of Neospora caninum oocysts in fecal samples from experimentally-infected dogs using the polymerase chain reaction
SO JOURNAL OF PARASITOLOGY, (APR 2001) Vol. 87, No. 2, pp. 395-398.
Publisher: AMER SOC PARASITOLOGISTS, 810 EAST 10TH STREET, LAWRENCE, KS 66044 USA.
ISSN: 0022-3395.
AB Neospora caninum oocysts, passed in the feces of a definitive host

(dog), were isolated, and genomic DNA was extracted. A polymerase cahin reaction (PCR) targeting the N. caninum-specific Nc 5 genomic sequence was performed using the isolated DNA. A synthesized competitor molecule containing part of the Nc 5 sequence was included in the assay as a check against false-negative PCR results and to quantify N. caninum oocyst DNA in fecal samples. A standard curve of the ratio of fluorescence intensity of PCR-amplified competitor to that of oocyst DNA was constructed to compare oocyst equivalents from fecal samples containing unknown numbers of N. caninum oocysts and to assess the sensitivity of the assay. The specificity of the assay was determined using the Nc 5-specific primers in PCR assays against other parasites likely to be found in canine feces. Genomic DNA sequences from the canine coccidians Hammondia heydorni. Cryptosporidium parvum. Sarcoystis cruzi, S. tenella, and Isospora ohioensis and the canine helminth parasites Strongloides stercoralis. Toxocura canis. Dipylidium caninum, and Ancylostoma caninum were not amplified. In addition, genomic DNA sequences from oocysts of coccidian parasites that might contaminate dog feces, such as Hammondia hammondi, **Taxoplasma gondii**, or Eimeria tenella, were not amplified in the PCR assay. The assay should be useful in epidemiological surveys of both domestic and wild canine hosts and in investigations of oocyst biology in experimental infections.

L2 ANSWER 6 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU Silva J C R; Ogassawara S; Marvulo M F V; Ferreira-Neto J S; Dubey J P (Reprint)
TI Toxoplasma gondii antibodies in exotic wild felids from Brazilian zoos
SO JOURNAL OF ZOO AND WILDLIFE MEDICINE, (SEP 2001) Vol. 32, No. 3, pp. 349-351.
Publisher: AMER ASSOC ZOO VETERINARIANS, 6 NORTH PENNELL ROAD, MEDIA, PA 19063 USA.
ISSN: 1042-7260.
AB Serum samples from 37 captive exotic felids in 12 zoos from six Brazilian states were assayed for antibodies to **Taxoplasma gondii** by the modified agglutination test using formalin-fixed whole tachyzoites, Titers greater than or equal to 1:20 were considered positive. Antibodies to T. gondii were found in 24 of 37 (64.9%) felids, including one European lynx (Lynx lynx), two jungle cats (Felis chaus), two servals (Leptailurus serval), two tigers (Panthera tigris). three leopards (Panthera pardus). and 14 of 27 lions (Panthera leo). This is the first serologic analysis for T. gondii infection in exotic wild felids front Brazilian zoos.

L2 ANSWER 7 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU Schoenen D (Reprint)
TI Requirements for the catchment, treatment, and surveillance of drinking water to avoid the transmittance of pathogenic bacterial, viral, and parasitic organisms
SO ACTA HYDROCHIMICA ET HYDROBIOLOGICA, (NOV 2001) Vol. 29, No. 4, pp. 187-196.
Publisher: WILEY-V C H VERLAG GMBH, PO BOX 10 11 61, D-69451 BERLIN, GERMANY.
ISSN: 0323-4320.
AB Measures devised for guaranteeing the supply of epidemiologically and hygienically sound drinking water are generally based on observations made during epidemics and the follow-up scientific studies. Despite the high level standards that have been attained in the treatment of drinking water, the drinking water-derived outbreaks still keep cropping up even in the industrialized countries, The outbreaks of the parasites Giardia lamblia and Cryptosporidium parvum, and the recent outbreak in Canada caused by **Taxoplasma gondii**, again focused our attention to the possible infection risk posed by pathogens in drinking water. The circumstances of the cryptosporidia outbreak in Milwaukee in 1993 can be considered as typical for such outbreaks in which parasites have caused human disease, There are generally two ways of avoiding the

transmittance of pathogens by drinking water: (i) use of uncontaminated groundwater, or (fi) treatment of the potentially contaminated one. All surface waters have to be considered potentially contaminated, while the purity of the groundwater depends on the local conditions. Routine disinfection of drinking water should be used to minimize the residual risk posed by pathogens. For purification of fecally contaminated water it is utterly inadequate. Testing of water for pathogens followed by more extensive decontamination measures in the case of positive findings appears to be of little value.

L2 ANSWER 8 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU VelgeRoussel F (Reprint); Marcelo P; Lepage A C; BuzoniGatel D; Bout D T
TI Intranasal immunization with **Taxoplasma gondii** SAG1 induces protective cells into both NALT and GALT compartments
SO INFECTION AND IMMUNITY, (FEB 2000) Vol. 68, No. 2, pp. 969-972. Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 0019-9567.
AB Intranasal (i.n.) immunization with the SAG1 protein of Toxoplasma gondii plus cholera toxin (CT) provides protective immunity. The aim of this study was to analyze the cellular activation of several mucosal compartments after i.n. immunization. Cervical and mesenteric lymph node (CLN and MLN, respectively) lymphoid cell and intraepithelial lymphocyte (IEL) passive transfer experiments were performed with CBA/J mice immunized i.n. with SAG1 plus CT. CLN and MLN cells and IEL isolated 42 days after immunization conferred protective immunity on naive recipient mice challenged with strain 76K T.gondii, as assessed by the reduction in the number of brain cysts. There were proliferative specific responses in nose-associated lymphoid tissue and the CLN and MLN cells from mice immunized,vith SAG1 plus CT, but no cytokine was detectable. Thus, protective immunity is associated with a specific cellular response in the nasal and mesenteric compartments after i.n. immunization.

L2 ANSWER 9 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU Angus C W (Reprint); KlivingtonEvans D; Dubey J P; Kovacs J A
TI Immunization with a DNA plasmid encoding the SAG1 (P30) protein of Toxoplasma gondii is immunogenic and protective in rodents
SO JOURNAL OF INFECTIOUS DISEASES, (JAN 2000) Vol. 181, No. 1, pp. 317-324. Publisher: UNIV CHICAGO PRESS, 5720 SOUTH WOODLAWN AVE, CHICAGO, IL 60637-1603.
ISSN: 0022-1899.
AB Immunization with DNA can induce humoral and cell-mediated immune responses, both of which are important in conferring immunity to **Taxoplasma gondii**, The efficacy of genetic vaccination with a cDNA encoding the T. gondii SAG1 (P30) surface antigen was evaluated. Sera of immunized mice showed recognition of T. gondii tachyzoites by immunofluorescence and exhibited high titers of antibody to SAG1 by ELISA, SAG1-stimulated splenocytes from vaccinated mice produced primarily interferon-gamma and interleukin-2, Vaccinated mice survived challenge with 80 tissue cysts of ME49 strain, whereas all control mice died; challenge with 20 tissue cysts resulted in fewer brain cysts, compared with controls, Challenge of vaccinated rats with VEG strain oocysts resulted in a reduction in brain cysts. No protection was observed when mice were challenged with the highly virulent RH strain tachyzoites, These results suggest that nucleic acid vaccination can provide protection against T. gondii infection in mice.

L2 ANSWER 10 OF 26 MEDLINE on STN
AU Wang B L; Pan X Z; Yin Y K; Weng X H
TI Investigation of anti-Toxoplasma gondii antibodies in immunodeficient patients.
SO CHUNG-KUO CHI SHENG CHUNG HSUEH YU CHI SHENG CHUNG PING TSA CHIH CHINESE JOURNAL OF PARASITOLOGY AND PARASITIC DISEASES, (2000) 18 (4) 224-6.
Journal code: 8709992. ISSN: 1000-7423.

AB OBJECTIVE: To investigate the presence of anti-**Taxoplasma gondii** antibodies in immunodeficient patients. METHODS: T. gondii-specific immunoglobulin G (IgG) antibodies in serum samples from 371 immunodeficient patients were detected by enzyme-linked immunosorbent assay (ELISA). The patients were with solid malignancies (including untreated digestive system malignancies and solid malignancies received chemotherapy), chronic liver diseases, patients received immunosuppressant therapy (dermatomyositis, psoriasis, pemphigus, post-renal transplantation, systemic lupus erythematosus and other miscellanies), lymphoma, leukemia and diabetes. 100 normal serum samples served as controls. RESULTS: The positive rate of patients with solid malignancies received chemotherapy, solid malignancies received chemotherapy, chronic liver diseases, systemic lupus erythematosus and leukemia was 19.0%, 33.3%, 16.5%, 45.4% and 20.0%, respectively, being significantly higher than that of the control group($P < 0.05$). CONCLUSION: The immunosuppressed patients are highly predisposing to secondary T. gondii infection.

L2 ANSWER 11 OF 26 MEDLINE on STN
AU Zhang S Y; Wei M X
TI Qualitative and quantitative comparison of three agglutination tests for detecting Toxoplasma gondii antibodies.
SO CHUNG-KUO CHI SHENG CHUNG HSUEH YU CHI SHENG CHUNG PING TSA CHIH CHINESE JOURNAL OF PARASITOLOGY AND PARASITIC DISEASES, (2000) 18 (1) 46-8.
Journal code: 8709992. ISSN: 1000-7423.
AB OBJECTIVE: To evaluate the diagnostic value of three agglutination tests used in three countries for detection of antibodies to **Taxoplasma gondii**. METHODS: A total of 288 human serum samples were assayed using modified agglutination test (MAT-1, using selfmade antigen), latex agglutination test (LAT, using Japanese Kit) and modified agglutination test (MAT-2, using French antigen). RESULTS: The positive rates of MAT-1 (> or = 1:20), LAT (> or = 1:32) and MAT-2 (> or = 1:20) were 9.7% (28/288), 8.9% (10/112) and 8.1% (17/210), respectively. No significant statistical difference was found among these positive rates (chi 2 = 0.392, $P > 0.05$). High agreements were found between MAT-1 and LAT (93.7%), LAT and MAT-2 (94.5%), and MAT-2 and MAT-1 (97.3%). Significant correlation were demonstrated in MAT-1 and LAT ($r = 0.613$), LAT and MAT-2 ($r = 0.551$), and MAT-2 and MAT-1 ($r = 0.841$), $p < 0.001$. CONCLUSION: The detection efficiency of the three agglutination tests is in good agreement and could alternatively be used for the diagnosis of toxoplasmosis.

L2 ANSWER 12 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU Matthiesen S H (Reprint); Shenoy S M; Kim K; Singer R H; Satir B H
TI The role of PRP1/parafusin in **Taxoplasma gondii** exocytosis
SO MOLECULAR BIOLOGY OF THE CELL, (NOV 1999) Vol. 10, Supp. [S], pp. 1256-1256.
Publisher: AMER SOC CELL BIOLOGY, PUBL OFFICE, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814.
ISSN: 1059-1524.

L2 ANSWER 13 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU Ferguson D J P (Reprint); Pittilo R M
TI **Taxoplasma gondii** and the Professor
SO PARASITOLOGY TODAY, (AUG 1999) Vol. 15, No. 8, pp. 301-302.
Publisher: ELSEVIER SCI LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, OXON, ENGLAND.
ISSN: 0169-4758.

L2 ANSWER 14 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU Haque S (Reprint); Dumon H; Haque A; Kasper L H
TI Alteration of intracellular calcium flux and impairment of nuclear Factor-AT translocation in T cells during acute Toxoplasma gondii infection in mice

SO JOURNAL OF IMMUNOLOGY, (15 DEC 1998) Vol. 161, No. 12, pp. 6812-6818.
Publisher: AMER ASSOC IMMUNOLOGISTS, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814.
ISSN: 0022-1767.

AB Down-regulation of host immune response to **Taxoplasma gondii** is associated with the expression of specific cytokines, in particular IL-IO, and the induction of CD4(+) T cell anergy, In the present study we report that the expression of both CD4 and CD2 antigen is down-regulated during the acute phase of infection, A decrease in the expression of CD2 was apparent during the acute phase of T. gondii infection in three genetically distinct strains of mice, CBA/J, C57BL/6, and BALB/c, The lymphoproliferative response induced by cross-linked anti-CD3 mAb or by Con A was markedly depressed, This suppressed response was associated with a reduction in the influx: of Ca2+. We have examined whether lymphocytes from T. gondii mice maintain NF-AT transcription factors in the nucleus where they participate in the Ca2+-dependent induction of genes required for lymphocyte activation and proliferation, Immunofluorescence with confocal microscopy using an Ab to NF-ATc demonstrates a decrease in translocation of NF-ATc in T lymphocytes from acutely infected mice. Together, these results suggest that the defect in T cell expansion that occurs during acute murine toxoplasmosis is related to reduced activity of NF-AT, a calcium-dependent transcription factor required for T cell proliferation.

L2 ANSWER 15 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
AU Manager, Ian D.; Hehl, Adrian B.; Boothroyd, John C.
TI The surface of Toxoplasma tachyzoites is dominated by a family of glycosylphosphatidylinositol-anchored antigens related to SAG1
SO Infection and Immunity (1998), 66(5), 2237-2244
CODEN: INFIBR; ISSN: 0019-9567

AB **Taxoplasma gondii** is an Apicomplexan parasite with a complex life cycle that includes a rapidly dividing asexual stage known as the tachyzoite. The tachyzoite surface has been reported to comprise five major antigens, the most abundant of which is designated SAG1 (for surface antigen 1). At least one of the other four (SAG3) and another recently described minor antigen (SRS1 [for SAG1-related sequence 1]) have previously been shown to be structurally related to SAG1. To det. if further SAG1 homologs exist, we searched a Toxoplasma expressed sequence tag (EST) database and found numerous ESTs corresponding to at least three new genes related to SAG1. Like SAG1, these new SRS genes encode apparently glycosylphosphatidylinositol-anchored proteins that share several motifs and a set of conserved cysteine residues. This family appears to have arisen by divergence from a common ancestor under selection for the conservation of overall topol. The products of two of these new genes (SRS2 and SRS3) are expressed on the surface of Toxoplasma tachyzoites by immunofluorescence. We also identified strain-specific differences in relative expression levels. A total of 10 members of the SAG1 gene family have now been identified, which apparently include three of the five major surface antigens previously described and one antigen expressed only in bradyzoites. The function of this family may be to provide a redundant system of receptors for interaction with host cells and/or to direct the immune responses that limit acute T. gondii infections.

L2 ANSWER 16 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU Allen M L; Dobrowolski J M; Muller H; Sibley L D; Mansour T E (Reprint)
TI Cloning and characterization of actin depolymerizing factor from Toxoplasma gondii
SO MOLECULAR AND BIOCHEMICAL PARASITOLOGY, (SEP 1997) Vol. 88, No. 1-2, pp. 43-52.
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.
ISSN: 0166-6851.

AB We determined the predicted amino acid sequence of actin depolymerizing

factor (ADF) from **Taxoplasma gondii** by sequencing the full-length cDNA. T. gondii ADF consists of 118 amino acids (calculated molecular weight 13400) and shares a high degree of sequence similarity to other low molecular weight actin monomer sequestering proteins, especially Acanthamoeba actophorin, plant ADFs and yeast and vertebrate cofilin. ADF from T. gondii is smaller and does not contain a nuclear localization sequence like the related vertebrate proteins. Southern blot analysis indicates that T. gondii ADF is a single-copy gene. Homogeneous recombinant T. gondii ADF purified from E. coli is active in binding actin monomers and depolymerizing F-actin. Localization of ADF by immunofluorescence and immuno-electron microscopy indicates ADF is scattered throughout the cytoplasm and prominently localized beneath the plasma membrane in T. gondii. (C) 1997 Elsevier Science B.V.

L2 ANSWER 17 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU GROSS U (Reprint); BORMUTH H; GAISSMAIER C; DITTRICH C; KRENN V; BOHNE W; FERGUSON D J P
TI MONOCLONAL RAT ANTIBODIES DIRECTED AGAINST **TAXOPLASMA-GONDII** SUITABLE FOR STUDYING TACHYZOITE BRADYZOITE INTERCONVERSION IN-VIVO
SO CLINICAL AND DIAGNOSTIC LABORATORY IMMUNOLOGY, (SEP 1995) Vol. 2, No. 5, pp. 542-548.
ISSN: 1071-412X.
AB We previously reported the in vitro analysis of stage differentiation of Toxoplasma gondii in murine bone marrow-derived macrophages, The purpose of this study was to generate monoclonal rat antibodies that might be suitable for investigating tachyzoite-bradyzoite interconversion in vivo with the murine model, Immunization of Fischer rats with cysts of T,gondii NTE resulted in the generation of seven monoclonal antibodies of the immunoglobulin G2a, G2b, or R-I isotype, which were further characterized by the immunoblot technique, immunofluorescence assay, immunohistology, and immunoelectron microscopy, Immunoblots demonstrated specific reactivity of five monoclonal antibodies with proteins with molecular masses of 40, 52, 55, 60, 64, 65, and 115 kDa. One antibody (CC2) appeared to recognize a differently expressed antigen depending on the parasite stage, reacting with a 40-kDa molecule in tachyzoites and a 115-kDa antigen in bradyzoites and oocysts, Several other monoclonal antibodies were shown to be stage specific and to react in immunofluorescence assays or in immunoblots with either tachyzoites or bradyzoites, Kinetics of stage conversion in vitro could be monitored by immunofluorescence with two of these monoclonal antibodies, Preliminary immunohistological investigations of tissue sections from infected mice demonstrated the possible usefulness of these monoclonal antibodies for future in vivo studies on stage differentiation of T, gondii in the murine system.

L2 ANSWER 18 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU BLACK M; SEEBER F; SOLDATI D; KIM K; BOOTHROYD J C (Reprint)
TI RESTRICTION ENZYME-MEDIATED INTEGRATION ELEVATES TRANSFORMATION FREQUENCY AND ENABLES COTRANSFECTION OF **TAXOPLASMA-GONDII**
SO MOLECULAR AND BIOCHEMICAL PARASITOLOGY, (OCT 1995) Vol. 74, No. 1, pp. 55-63.
ISSN: 0166-6851.
AB This report describes the use of restriction enzyme-mediated integration (REMI) to increase the transformation frequency and allow co-transfection of several unselected constructs under the selection of a single selectable marker. We found that while BamHI (the enzyme used to originally demonstrate REMI (Schiestl, R.H. and Fetes, T.D. (1998) Integration of DNA fragments by illegitimate recombination in Saccharomyces cerevisiae. Proc. Natl. Acad. Sci. USA 88, 7585-7589) increased the number of transformants by 2-5-fold over the control without added enzyme, NotI proved to be a further 29-46-times more effective in enhancing stable transformation. This simple technique was used in the transformation of three non-selective markers (two modified membrane

proteins and beta-galactosidase) with a selectable construct expressing chloramphenicol acetyltransferase. Following chloramphenicol selection, four out of ten independent transformants stably acquired all four constructs with at least two expressing all four genes at the protein level. These results demonstrate that REMI may be used in the efficient stable transformation and co-transfection of this and perhaps other protozoan parasites.

L2 ANSWER 19 OF 26 MEDLINE on STN
AU Hammouda N A; Abo el-Naga I; Hussein E D; Rashwan E A
TI Opsonization and intracellular killing of Toxoplasma gondii by human mononuclear phagocytes.
SO JOURNAL OF THE EGYPTIAN SOCIETY OF PARASITOLOGY, (1995 Apr) 25 (1) 11-7. Journal code: 8102141. ISSN: 0253-5890.
AB Macrophages and monocytes have been shown to have an important role in the defence mechanism against **Taxoplasma gondii** infection. Antibodies in the presence of complement have been found capable of killing extracellular T. gondii. This study demonstrated that tachyzoites in the presence of antitoxoplasma antibodies with complement were detected in 39-58% of monocytes that had phagocytosed them and the mean number of Toxoplasma tachyzoites in this group was significantly low one hour post infection, while only 10-25% of monocytes phagocytosed Toxoplasma tachyzoites in absence of antibodies and complement with significant high number of replicated tachyzoites. This indicated that specific antibodies had a strong opsonizing action. Complement alone was weak in increasing the phagocytic activity.

L2 ANSWER 20 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU HUNTER C A (Reprint); SUBAUSTE C S; VANCLEAVE V H; REMINGTON J S
TI PRODUCTION OF GAMMA-INTERFERON BY NATURAL-KILLER-CELLS FROM **TAXOPLASMA GONDII**-INFECTED SCID MICE - REGULATION BY INTERLEUKIN-10, INTERLEUKIN-12, AND TUMOR-NECROSIS-FACTOR-ALPHA
SO INFECTION AND IMMUNITY, (JUL 1994) Vol. 62, No. 7, pp. 2818-2824. ISSN: 0019-9567.
AB Previous studies of mice have implicated natural killer (NK) cells as mediators of protective activity against Toxoplasma gondii through their production of gamma interferon (IFN-gamma). In the present study, we have compared NK-cell activity in infected and uninfected SCID mice. Our data reveal that infection results in increased levels of IFN-gamma in serum and elevated NK-cell activity but that these NK cells were not cytotoxic for T. gondii-infected p815 cells. Treatment with anti-IFN-gamma antibody abrogated the increase in NK-cell activity and resulted in earlier mortality of infected mice. In vivo treatment with anti-asialo GM1 antiserum reduced NK cell activity and levels of IFN-gamma in serum but did not alter time to death. Spleen cells from infected mice produced higher levels of IFN-gamma than those from uninfected mice when stimulated in vitro with live T. gondii or parasite antigen preparations. Further analysis revealed that interleukin 10 (IL-10) inhibited, whereas tumor necrosis factor alpha (TNF-alpha) and 1L-12 enhanced, IFN-gamma production by spleen cells from infected or uninfected mice. The combination of IL-12 and TNF-alpha induced higher levels of IFN-gamma from whole spleen cells of infected mice than from those of uninfected mice. Depletion of the adherent cell population from the spleen cells of infected mice led to a significant reduction in the levels of IFN-gamma produced after stimulation with IL-12 plus TNF-alpha. Similar results did not occur with cells from uninfected mice. These data indicate that other cytokines produced by the adherent fell population from infected mice may be involved in maximal production of IFN-gamma by NK cells stimulated with IL-12 and TNF-alpha. To assess the importance of endogenous IL-12, a polyclonal anti-IL-12 was administered to infected SCID mice. This treatment led to earlier mortality, indicating that endogenous IL-12 mediates resistance to T. gondii.

L2 ANSWER 21 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN

AU DUBEY J P (Reprint); GOODWIN M A; RUFF M D; KWOK O C H; SHEN S K; WILKINS G C; THULLIEZ P
TI EXPERIMENTAL TOXOPLASMOSIS IN JAPANESE-QUAIL
SO JOURNAL OF VETERINARY DIAGNOSTIC INVESTIGATION, (APR 1994) Vol. 6, No. 2, pp. 216-221.
ISSN: 1040-6387.
AB Twenty-four 5-month-old battery-hatched Japanese quail were inoculated orally with 10(5) (ME 49 strain, group A, 6 birds), 10(3) (ME 49 strain, group B, 6 birds), 10(5) (GT-1 strain, group C, 6 birds), and 10(3) (GT-1 strain, group D, 6 birds) Toxoplasma gondii oocysts. All birds in group C died or were euthanized within 8 days after inoculation (DAI). Five of the 6 birds in group D died or were euthanized 8, 9, 15, 19, and 23 DAI. One of the 6 quail in group A died 9 DAI, and 1 of the 6 birds in group D died 16 DAI. The 11 quail (1 from group D and 10 from groups A and B) were euthanized 63 DAI; T. gondii was isolated by bioassays in m ice from the brains of 10, hearts of 10, and skeletal muscles of all 11 quail. Quail that survived marked small intestinal and splenic toxoplasmosis lived long enough to develop severe protozoal pneumonia, myocarditis, or meningoencephalitis. The quail that survived only to be examined at 63 DAI had moderate multifocal nonpurulent encephalitis and myositis and had a hypertrophic spleen that contained hemosiderin-laden macrophages. **Taxoplasma gondii** antibodies were found in the sera of all quail examined 63 DAI. Antibody titers to T. gondii in the modified agglutination test were higher than in the indirect hemagglutination and latex agglutination tests. Antibodies were not detected in quail sera examined by the Sabin-Feldman dye test.

L2 ANSWER 22 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU CHOMEL B B (Reprint); CARNICIU M L; KASTEN R W; CASTELLI P M; WORK T M; JESSUP D A
TI ANTIBODY PREVALENCE OF 8 RUMINANT INFECTIOUS-DISEASES IN CALIFORNIA MULE AND BLACK-TAILED DEER (ODOCOILEUS-HEMIONUS)
SO JOURNAL OF WILDLIFE DISEASES, (JAN 1994) Vol. 30, No. 1, pp. 51-59.
ISSN: 0090-3558.
AB We tested 276 sera from 18 free-ranging black-tailed and mule deer (Odocoileus hemionus) herds in California (USA) collected from 1987 to 1991 in five biogeographical habitat types, for antibodies against eight infectious disease agents. Overall antibody prevalence was 56% for Anaplasma marginale, 31% for Borrelia burgdorferi, 16% for bluetongue virus serotype 17, 15% for epizootic hemorrhagic disease virus, 7% for Caxiella burnetii and **Taxoplasma gondii**, respectively, and 0% for bovine leukosis virus and caprine arthritis/encephalitis virus, respectively. Antibodies against Lyme borreliosis and anaplasmosis were found in deer throughout California, but antibodies against bluetongue and epizootic hemorrhagic disease were most prevalent in deer from southern California.

L2 ANSWER 23 OF 26 MEDLINE on STN
AU Suzuki Y; Orellana M A; Wong S Y; Conley F K; Remington J S
TI Susceptibility to chronic infection with Toxoplasma gondii does not correlate with susceptibility to acute infection in mice.
SO INFECTION AND IMMUNITY, (1993 Jun) 61 (6) 2284-8.
Journal code: 0246127. ISSN: 0019-9567.
AB Resistance against acute and chronic infection with **Taxoplasma gondii** in BALB/c and CBA/Ca mice was compared. Intraperitoneal inoculation of either 20, 40, or 80 cysts of the ME49 strain resulted in mortality rates in BALB/c mice of 12% (2 of 17), 50% (6 of 12), and 75% (9 of 12), respectively, within 3 weeks after infection (acute stage). There was no mortality in the CBA/Ca mice for any of the doses. In marked contrast, CBA/Ca mice were highly sensitive to chronic infection with developing toxoplasmic encephalitis; they began dying 2 months after infection with 10 cysts of the ME49 strain, and mortality reached 53% (16 of 30) by the sixth month postinfection. No mortality (0 of 20) was observed in the chronically infected BALB/c mice. CBA/Ca mice had

markedly more cysts in their brains than BALB/c mice in the chronic stage. Severe inflammatory changes were observed only in the brains of CBA/Ca mice. Interestingly, in the acute stage (the first 3 weeks), numbers of cysts in the brains were significantly greater in CBA/Ca than BALB/c mice, whereas only BALB/c mice showed mortality in that time period. No inflammatory changes were observed in brains of BALB/c mice during the acute stage of the infection. Thus, resistance against chronic infection appears to be regulated by a mechanism(s) that is different from those conferring resistance against acute infection. There was no difference in gamma interferon levels in sera between CBA/Ca and BALB/c mice during the acute stage. However, during the chronic stage, only BALB/c mice had detectable levels of gamma interferon in their sera.

L2 ANSWER 24 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU DUBEY J P (Reprint); CAMARGO M E; RUFF M D; WILKINS G C; SHEN S K; KWOK O C H; THULLIEZ P
TI EXPERIMENTAL TOXOPLASMOSIS IN TURKEYS
SO JOURNAL OF PARASITOLOGY, (DEC 1993) Vol. 79, No. 6, pp. 949-952.
ISSN: 0022-3395.
AB Fourteen 2-3-wk-old turkeys were inoculated orally with 10(5) or 10(4) infective oocysts of the ME 49 strain of **Taxoplasma gondii**. Of the 8 turkeys given 10(5) oocysts in experiment 1, 3 died or were killed 12 or 14 days after inoculation (DAI) because of respiratory distress associated with a concomitant Aspergillus-like fungus infection. The remaining 5 turkeys remained normal and were killed 62 DAI. Toxoplasma gondii was isolated in mice from the heart of all 5, from the breast muscles of 2, leg muscles of 3, and from the brains and livers of none of the turkeys. All 6 turkeys fed 10(4) oocysts in experiment 2 remained clinically normal until necropsy on 41 DAI; T. gondii was isolated from pooled tissues from each turkey. All 14 turkeys developed high antibody titers to T. gondii in the modified agglutination test (MAT) using formalinized tachyzoites. The enzyme-linked immunosorbent assay (ELISA) was as sensitive as MAT for detecting T. gondii antibodies in turkey sera. The latex agglutination and indirect hemagglutination tests were less sensitive than the MAT and ELISA. No dye-test-measurable antibodies were found in sera of any turkey.

L2 ANSWER 25 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AU ARAUJO F G; PROKOCIMER P; LIN T; REMINGTON J S (Reprint)
TI ACTIVITY OF CLARITHROMYCIN ALONE OR IN COMBINATION WITH OTHER DRUGS FOR TREATMENT OF MURINE TOXOPLASMOSIS
SO ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, (NOV 1992) Vol. 36, No. 11, pp. 2454-2457.
ISSN: 0066-4804.
AB The activity of the macrolide antibiotic clarithromycin was examined alone or in combination with other drugs for the treatment of acute or chronic infections with **Taxoplasma gondii** in mice. A dose of 300 mg of clarithromycin per kg per day administered alone for 10 days, beginning 24 hours after infection, protected 10 to 30% of mice infected with lethal inocula of tachyzoites or tissue cysts of different strains of T. gondii, including some strains isolated from patients with both AIDS and toxoplasmosis. Although clarithromycin was protective, a wide variation in its activity against different strains was observed. Survival of infected mice was increased significantly by treatment with clarithromycin in combination with pyrimethamine or with sulfadiazine. Treatment of chronically infected mice with clarithromycin at 300 mg/kg/day administered alone for 8 weeks resulted in significant reduction in the numbers of T. gondii cysts in their brains. The combination of clarithromycin and minocycline resulted in an activity against T. gondii cysts that was significantly greater than the activity of clarithromycin or minocycline administered alone. These results indicate a role for clarithromycin in the treatment of human toxoplasmosis, particularly when this antibiotic is used in combination with other drugs with activity against T. gondii.

L2 ANSWER 26 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AU WALDELAND H; FRENKEL J K
TI LIVE AND KILLED VACCINES AGAINST TOXOPLASMOSIS IN MICE.
SO J PARASITOL, (1983) 69 (1), 60-65.
CODEN: JOPAA2. ISSN: 0022-3395.
AB Mice were immunized with live organisms of the different stages (i.e., tachyzoites, bradyzoites or sporozoites) of **Taxoplasma gondii** or with killed tachyzoites with or without adjuvants. The adjuvants used were liposomes, anhydrides of myristic or lauric acid, levamisole and Freund's complete adjuvants. The following strains of T. gondii were used: RH, M-7741, the nonpersisting, temperature-sensitive mutants ts-1, ts-4 or ts-5, and the back mutant of ts-1 (Pfefferkorn et Pfefferkorn, 1976). The protection afforded was measured by challenge with the pathogenic M-7741 strain. Killed tachyzoites alone, or with adjuvants, offered only slight protection against challenge with M-7741 and no protection against challenge doses that were lethal to all control mice. Chronic infection and live nonpersisting vaccines conveyed a strong immunity to challenge, except strain ts-1. Because it was less pathogenic and did not require chemoprophylaxis, strain ts-4 best fulfilled the requirements for a good vaccine; its effect in host other than the mouse remains to be determined. The immunity induced by tachyzoites, bradyzoites or sporozoites appeared equally strong when challenged with sporozoites.

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